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Proposed Maximum Residue Limit

PMRL2014-36

Glufosinate-ammonium

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Under the authority of the *Pest Control Products Act*, Health Canada's Pest Management Regulatory Agency (PMRA) is proposing to establish maximum residue limits (MRLs) for glufosinate-ammonium on various commodities to permit the import and sale of foods containing such residues.

Glufosinate-ammonium is a herbicide currently registered in Canada for use on various commodities.

The PMRA must determine the quantity of residues that are likely to remain in or on the imported food commodities when glufosinate-ammonium is used according to label directions in the exporting country, and that such residues will not be a concern to human health. This quantity is then legally established as an MRL on the corresponding imported commodity. An MRL applies to the identified raw agricultural food commodity as well as to any processed food product that contains it, except where separate MRLs are specified for the raw agricultural commodity and a processed product made from it.

Consultation on the proposed MRLs for glufosinate-ammonium is being conducted via this document (see Next Steps, the last section of this document). A summary of the field trial data used to support the proposed MRLs can be found in Appendix I.

To comply with Canada's international trade obligations, consultation on the proposed MRLs is also being conducted internationally by notifying the World Trade Organization, as coordinated by the Standards Council of Canada.

The proposed MRLs, to replace or be added to the MRLs already established for glufosinate-ammonium, are as follows.

Table 1 Proposed Maximum Residue Limits for Glufosinate-ammonium

Common Name	Residue Definition	MRL (ppm) ¹	Food Commodity
Glufosinate-ammonium	ammonium(±)-2-amino-4-(hydroxymethylphosphinyl)butanoate, including the metabolite propanoic acid, 3-(hydroxymethylphosphinyl)	2.0	Potato flakes
		1.6	Potato chips
		0.8 ²	Potatoes
		0.25	Dried prune plums
		0.2 ³	Pome fruit (Crop Group 11-09); Sweet corn kernels plus cob with husks removed
		0.1	Citrus fruit (Revised Crop Group 10); Olives

- ¹ ppm = parts per million
- ² The MRL of 0.8 ppm is proposed to replace the currently established MRL of 0.4 ppm for residues of glufosinate ammonium in potatoes.
- ³ The MRL of 0.2 ppm for Pome Fruit (Crop Group 11-09), which includes apples is proposed to replace the established MRL of 0.05 ppm for apples.

MRLs are proposed for each commodity included in the listed crop groupings in accordance with the Residue Chemistry Crop Groups webpage in the Pesticides and Pest Management section of Health Canada's website.

MRLs established in Canada may be found using the Maximum Residue Limit Database on the Maximum Residue Limits for Pesticides webpage. The database allows users to search for established MRLs, regulated under the *Pest Control Products Act*, both for pesticides or for food commodities.

International Situation and Trade Implications

Table 2 compares the MRLs proposed for glufosinate-ammonium in Canada with corresponding American tolerances and Codex MRLs¹. American tolerances are listed in the Electronic Code of Federal Regulations, 40 CFR Part 180, by pesticide. A listing of established Codex MRLs is available on the Codex Alimentarius Pesticide Residues in Food website, by pesticide or commodity.

Table 2 Comparison of Canadian MRLs, American Tolerances and Codex MRLs

Food Commodity	Canadian MRL (ppm)	American Tolerance (ppm)	Codex MRL (ppm)
Potato flakes	2.0	2.0	0.5 (potatoes)
Potato chips	1.6	1.6	0.5 (potatoes)
Potatoes	0.8	0.8	0.5
Dried prune plums	0.25	0.25 (Fruit, stone, group 12-12)	0.05 (stone fruits)
Pome Fruit (Crop Group 11-09)	0.2	0.25	0.05
Sweet corn kernels plus cob with husks removed	0.2	0.3	0.1 (maize)

¹ The Codex Alimentarius Commission is an international organization under the auspices of the United Nations that develops international food standards, including MRLs.

Food Commodity	Canadian MRL (ppm)	American Tolerance (ppm)	Codex MRL (ppm)
Citrus Fruit (Revised Crop Group 10)	0.1	0.15	0.1
Olives	0.1	0.15	Not established

Next Steps

The PMRA invites the public to submit written comments on the proposed MRLs for glufosinate-ammonium up to 75 days from the date of publication of this document. Please forward your comments to Publications (see the contact information on the cover page of this document). The PMRA will consider all comments received before making a final decision on the proposed MRLs. Comments received will be addressed in a separate document linked to this PMRL. The established MRLs will be legally in effect as of the date that they are entered into the Maximum Residue Limit Database.

Appendix I

Summary of Field Trial Data Used to Support the Proposed MRLs

Residue data for glufosinate-ammonium in transgenic sweet corn, citrus fruit, pome fruit, olives and potatoes were submitted to support the maximum residue limits on several commodities. Previously reviewed residue data from field trials conducted on stone fruit were reassessed in the framework of this petition. In addition, processing studies in treated crops were reviewed to determine the potential for concentration of residues of glufosinate-ammonium into processed commodities.

Maximum Residue Limit(s)

The recommendation for maximum residue limits (MRLs) for glufosinate-ammonium was based upon the residues observed in crop commodities treated according to US label directions and at exaggerated rates, and the guidance provided in the OECD MRL Calculator. Table A1 summarizes the residue data used to calculate the proposed MRLs.

Table A1 Summary of Field Trial and Processing Data Used to Support Maximum Residue Limit(s) (MRLs)

Commodity	Application Method/ Total Application Rate (kg a.i./ha)	Preharvest Interval (days)	Residues (ppm)		Experimental Processing Factor
			Min	Max	
Transgenic sweet corn	Foliar/0.822-0.872	30-50	<0.09	<0.21	Not applicable
Orange	Broadcast to the base of the plant /4.91-5.16	13-14	<0.1	<0.1	1.0X (orange oil)
Lemon	Broadcast to the base of the plant/5.05-5.07	14	<0.1	<0.1	--
Grapefruit	Broadcast to the base of the plant/5.01-5.14	13-14	<0.1	<0.1	--
Apple	Broadcast to the base of the tree/3.92-5.06	13-14	<0.1	<0.1	1.0X (dry pomace, wet pomace, juice)
Pear	Broadcast to the base of the tree/4.99-5.12	14	<0.1	<0.139	--
Plums	Broadcast to the base of the tree/3.27-3.41	14	<0.1	<0.12	2.0X (dried prune plums)
Olive	Broadcast to the base of the tree/5.05-5.07	14	<0.1	<0.1	1.0X (olive oil)
Potato	Foliar/0.437-0.471	9-10	<0.10	0.667	2.3x (chips) 3.0x (flakes) 0.6x (wet peel)

Following the review of all available data, MRLs as proposed in Table 1 are recommended to cover residues of glufosinate-ammonium. Residues of glufosinate-ammonium in these imported crop commodities at the proposed MRLs will not pose an unacceptable risk to any segment of the population, including infants, children, adults and seniors.